



A Temporary Rock Sediment Dam Type A (TRSD-A) is a large dam structure with a weir outlet that forms a storage area behind it. The type A dams utilize riprap lined with sediment control stone to trap sediment and protect offsite property. The TRSD-A usually is installed in an area where naturally formed drainage features allow for a large ponding or retention area to form from the construction of the dam at the outlet point. The TRSD-A can be constructed with some additional embankment material to help connect the stone dam to the existing features. They are usually used in larger drainage areas where an embankment may be used to keep the effluent shallow with low velocities and allow sediment to be trapped within construction boundaries.

**AREAS OF USE:**

- At natural drainage outlets that form valleys or other topographic features that allow for a large detention area to be formed with the rock dam.
- In watersheds where the drainage area would exceed the design limits of a temporary rock sediment dam type B.
- In large base ditches where the TRSD-A can be placed at the outlet where the stone will connect to the side slopes.

**DESIGN CRITERIA:**

- Drainage area shall be limited to 10 acres or less.
- Minimum length to width ratio is 2:1 for impounding area behind rock dam.
- Weir section should be  $\frac{2}{3}$  the width of the channel flow area.
- Location should be accessible for maintenance for life of the dam.
- Volume should be designed for 3600 cubic feet per acre of disturbance.
- Surface area should be designed to provide a surface area of 435 square feet per cfs based on the design year storm.
- Inflow to basin should be located at farthest point from release point to prevent short-circuiting of flow path and reduced settling efficiency.
- Minimum of 3 porous baffles should be constructed within the TRSD-A.
- Minimum depth 3.5 feet with 1.5 feet excavated below grade and 2 feet above grade.
- Embankment side slopes should 2:1 or flatter.
- Design life of structure shall be 3 years or less.
- Weir section should be designed to pass the peak discharge of the design storm. A maximum flow of depth of 6 inches, minimum freeboard of 1 foot and a maximum side slopes of 2:1 are recommended.

**CONSTRUCTION SPECIFICATIONS:**

- Maximum dam height is 8 feet with weir elevation no more than 6 feet above grade.
- Sediment control stone shall be faced on the structural stone in the direction of flow at a minimum thickness of 12 inches.
- TRSD-A should have minimum top thickness of 5 feet with 2:1 slopes on the upstream flow with 3:1 slopes on the downstream side.



- Rock splash pad or other suitable material shall extend past the dam to prevent channel erosion or a distance equal to the height of the dam.
- Stone dam shall be a maximum of 8 feet above grade.
- Fill material/freeboard should be compacted for area of embankment and rock dam tie in.
- Install 3 coir fiber baffles in the impoundment area of TRSD-A with a minimum spacing of ¼ the length of impoundment.

**MATERIAL SPECIFICATIONS:**

- Structural stone shall be class I Riprap that meets the requirements of Section 1042 of the Standard Specifications for Rip Rap, Class 1.
- Sediment control stone shall be #5 or #57 stone, which meets the requirements of Section 1005 of the Standard Specifications for these stone sizes.
- Baffles shall meet the requirements of the Coir Fiber Baffle Special Provision.

**PAYMENT:**

• Installation of measure:	
Riprap, Class ____	Ton
Sediment Control Stone	Ton
Coir Fiber Baffle	Linear Foot
• Silt cleanout of device:	
Silt Excavation	Cubic Yard

**MAINTENANCE:**

- Inspect the TRSD-A on a regular basis and after each significant rainfall event.
- Remove accumulated sediment when the measure reaches half full.
- As dam becomes clogged with sediment, replace sediment control stone when runoff no longer passes through it.
- Remove accumulated debris from rock dam.
- Maintain weir section of dam when damaged by equipment or storms.

**TYPICAL PROBLEMS:**

- Silt accumulations not removed in a timely manner.
- Poorly constructed rock weir.
- Structure is not rebuilt when damaged by storms, equipment, etc.
- Stone is not replaced/maintained as sediment accumulates in it reducing porosity.
- Stone dam is not properly tied into embankment of basin.